

REMARKS / DISCUSSION OF ISSUES

Claims 1-19 are pending in the application. Claims 28-30 are presently cancelled without prejudice or disclaimer of their subject matter.

Rejections under 35 U.S.C. § 102

Claims 1-19 and 28-30 are rejected under 35 U.S.C. § 102(a) as being unpatentable over *Sumanaweera* (US Patent 6,475,149). For at least the reasons set forth below, Applicants respectfully submit that this rejection is improper and should be withdrawn.

At the outset Applicants rely at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, a proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

Claim 1 recites:

*A method of capturing an image using an ultrasound system, comprising:
surveying the image to collect motion data;
analyzing the motion data to identify a flow in the image; and*

scanning a limited region of the image containing the flow with a flow imaging technique.

The Office Action directs Applicants to column 2, lines 25-26, column 3 lines 23-24 and, in the Response to Arguments, column 4, lines 3-4 and 20-25 for the emphasized portion of claim 1. Applicants respectfully submit that the applied art fails to at least the emphasized portion of claim 1. Notably, the portion of column 2 relied upon discloses that:

“Both tissue and fluid data are used to detect vessel or organ borders. Fluid data, such as ultrasound Doppler data, more clearly or sharply identifies tissue-to-fluid borders, such as vessel borders closer to the transducer.”

Nowhere is there any description of surveying an image as claimed. Rather data are used to detect borders.

Column 3, lines 24-28 state:

“The Doppler processor 18 detects Doppler data representing flowing fluid. The Doppler data is obtained for a two-dimensional region of the patient. The Doppler processor 18 detects frequency shifts associated with the Doppler effect of moving or flowing fluid on the transmitted or received signals.”

Again, there is no disclosure of surveying an image. Rather the function of a Doppler processor is described.

Column 4, lines 3, 4 and 20-25 recite:

“In one embodiment, ultrasound data is stored as image data combined from B-mode and Doppler data...”

The acquired data comprises combined data or separate data. Combined data includes tissue or flow data for each or a subset of the pixels associated with an image or a region of the patient. For example, B-mode and Doppler data are provided for each spatial location or pixel associated with a part of a DICOM or ultrasound image. As another example, one of B-mode or Doppler data is provided for each pixel or location within a scanned region of the patient.”

This portion of the applied art described storing ultrasound data as image data. Acquired data comprises combined data or separate data, with the combined data including tissue data or flow data for each. The combined data also includes a subset of pixels associated with an image or region of a patient. B-mode data or Doppler data are provided for each pixel or location in an example. So, aspects of the data are described in connection with an image, but there is no disclosure of surveying the image. Stated differently, data are described in the context of an image but there is no disclosure of a method that includes use of the image, and especially the surveying of the image as specifically claimed.

Finally, while the display 26 may be used to display an image, and borders thereof, there is no disclosure of surveying of anything provided on the display, especially the image.

Claim 12 recites:

An ultrasound system, comprising:

a survey system for collecting motion data from a target image;

a segmentation system for mapping a region of flow within the image based on the motion data; and

a flow acquisition system that automatically limits the collection of flow image data within the image to the region of flow.

In rejecting claim 12, the Office Action directs Applicants to essentially the same portions of *Sumanaweera* as were applied in the rejection of claim 1. As such, Applicants' position in traversing the rejection of claim 1 are germane to the rejection of claim 12, and are not repeated in the interest of brevity.

Applicants nonetheless traverse the rejection of claim 12 for at least the following additional reasons. For the rejection of the emphasized portion of claim 12, the Office Action states (with reference to *Sumanaweera*):

“the system includes the Doppler processor 18 detects a Doppler data that representing flowing fluid of a Vessel border or organ. These data are analyzed and displayed on the display.” (Emphasis original.)

Applicants respectfully submit that this is not that which is claimed. Specifically, the survey system of claim 12 **collects data from an image**. The Office Action describes **displaying data on a display**. Thus, there is a clear difference between that which is disclosed in *Sumanaweera* and that which is claimed in claim 12.

For at least the reasons set forth above, Applicants respectfully submit that the applied art fails to disclose at least one feature of claim 1 and at least one feature of claim 12. Accordingly, and for at least the foregoing reasons, Applicants respectfully submit that a *prima facie* case on anticipation has not been established and claims 1 and 12 are therefore patentable over the applied art. Claims 2-11 and 13-19, which depend from claims 1 and 12, respectively, are also patentable for at least the same reasons and in view of their additionally recited subject matter.

Conclusion

In view of the foregoing, applicant(s) respectfully request(s) that the Examiner withdraw the objection(s) and/or rejection(s) of record, allow all the pending claims, and find the application in condition for allowance.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the telephone number listed below.

Respectfully submitted on behalf of:
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